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# National Institute of Justice

## S o l i c i t a t i o n

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*Jeremy Travis, Director*

*April 1999*

### Solicitation for Safe School Technologies

**APPLICATION DEADLINE: June 7, 1999**

**U.S. Department of Justice**  
**Office of Justice Programs**  
810 Seventh Street NW  
Washington, DC 20531

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For funding and grant information contact:  
**Department of Justice Response Center:**  
800-421-6770

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**Office of Justice Programs**  
**World Wide Web Site:**  
*<http://www.ojp.usdoj.gov>*

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**National Institute of Justice**  
**World Wide Web Site:**  
*<http://www.ojp.usdoj.gov/nij>*

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## Safe School Technologies

### I. Introduction

This solicitation seeks proposals to develop new or improved technologies and/or implement appropriate technologies in an innovative manner into the nation's schools, thus assisting in the goal of creating safer and more secure environments that will enhance the learning process.

### II. Background

The majority of our Nation's schools are very safe and even those with higher levels of crime than the typical school may be safer than the neighborhoods in which they reside. However, reducing the levels of violence in schools and assuring that students can learn in a safe, non-threatening environment is a national goal that has received renewed interest from the public after several tragedies in 1998 involving multiple homicides at or near schools.

NIJ is streamlining its process to accommodate the volume of proposals anticipated under this solicitation. Researchers can help in a significant way by sending NIJ a nonbinding letter of intent by May 14, 1999. The Institute will use these letters to forecast the numbers of peer panels it needs and to identify conflicts of interest among potential reviewers. There are two ways to send these letters. You can reach NIJ by Internet by sending e-mail to [tellnij@ncjrs.org](mailto:tellnij@ncjrs.org) and identifying the solicitation and section(s) you expect to apply for. You can write a letter with the same information to Solicitation for Safe School Technologies, National Institute of Justice, Office of Science and Technology, 810 Seventh Street NW, Washington, DC 20531. Help us help you.

Many programs, encouraged or funded by a variety of Federal and State government agencies have been implemented in the Nation's schools in recent years to promote an atmosphere of non-violence and mutual respect for persons and property and to encourage conflict resolution by means other than violence and disruptive behavior. While the use of security technology to complement or supplement these efforts has already been incorporated into some schools, especially to address the most serious threats of violence, e.g. metal detectors and closed circuit television cameras, little focused national attention has been given to the possible role of technology as an effective aid or force multiplier in creating safer and more secure schools.

The purpose of this solicitation is to encourage technology developers to be creative in working with schools and those individuals in the schools responsible for safety and security and the law enforcement agencies which serve the schools, to propose new or improved technologies that have promise for wide implementation.

Technologies that may have a positive impact on creating safer school environments for students, teachers, and administrative staff may include the general categories of simulation and training, communication and information, officer protection and crime prevention, less-than-lethal technology, graphical information systems, and crime mapping.

Successfully implemented products from this solicitation should help meet the national goals of the Safe Schools Initiative set out by Congress in the Omnibus Consolidated Appropriations Act for FY 99, H11060.

## III. Areas of Research Required

In your proposal, please describe efforts to advance technology in support of safe schools beyond the current state-of-the-art. Documented knowledge of your understanding of the current state-of-the-art is very important. Your proposals should focus on the research, development, testing, evaluation, adoption, and implementation phases of new technology; or you may propose modifications of existing technology in new or innovative ways.

Your proposed technological solutions should serve as work force multipliers that relieve school security and other personnel responsible for safety of excess burdens in order to enhance their ability to perform their duties. Such research, development, testing, evaluation, adoption, and implementation projects should address real and significant problem areas. Applicants should remember that the resulting technological solutions should be affordable to acquire as well as to maintain and not require special expertise or excessive training to operate.

The solicitation also seeks proposals that will assess the effective uses of technology for school security.

Innovative solutions are the focus of this solicitation. This solicitation is not intended to fund the purchase and installation of existing commercial systems.

NIJ encourages you to submit proposals that link public and private sectors. For example, partnerships between a school or school district and a company with technological expertise, or a consortium which may include a police department and one or more companies or academic institutions, would receive favorable consideration. Partnership groups should include an active member of a recognized law enforcement agency or school.

This solicitation focuses on near-term (one to three years) development and implementation projects. It is open to a wide variety of proposals in order to achieve a balanced portfolio of product development, implementation and assessment projects. Utilization of enhanced technologies can change the way school security is managed, and ultimately, how a safe school environment is achieved in communities throughout the country.

You are encouraged to use the resources and expertise of the NIJ National Law Enforcement and Corrections Technology Center (NLECTC) located in Rockville, Maryland, and the regional NLECTC's located in Rome, New York; Charleston, South Carolina; Denver, Colorado; El Segundo, California; and the Border Research and Technology Center (BRTC) located in San Diego, California. More information about the NIJ NLECTC system is available on the Internet at <<http://www.nlectc.org>>.

Please keep in mind that cost considerations of resulting technology development products are a major concern. Most schools have very little money for school security. These and related factors all influence the timeliness and the degree to which new technologies will be accepted by school administrators. Please consider the questions below when determining the usefulness of your proposed new technology development effort. In your proposal, you should incorporate information that addresses the general themes posed by these questions; however, it is not necessary to explicitly answer each question.

- How important is the new technology to the overall security of schools? What will be its impact on organizational structure and personnel requirements?
- How much will the technology cost to purchase, customize to fit local needs (if necessary), and maintain?
- How many units will be needed?

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- What are the hidden costs? For example, new computers used for acquisition, storage, and analysis of security related data may require additional data input personnel, or a single metal detector may be totally inadequate for rush hour needs in the morning or at lunch times.
- What, if any, are the net savings in labor or other costs?
- How much training is required to use and maintain the technology?
- How will the courts view the technology in terms of liability and interference with personal freedom? What constitutional or other legal issues may arise from utilization of the technology?

Within the following technical areas that NIJ is already supporting, there may be specific topics that could meet critical school security and safety needs. These topics are not considered to be exclusive; you may submit proposals in other areas.

## A. Simulation and Training

The operational duties and tasks of school personnel charged with school safety and security, whether they are law enforcement officers, school principals, or others, are becoming increasingly complex, diverse, situation-dependent, and highly interactive. Traditional classroom training techniques to address this responsibility can be limited because they lack the realism and interpersonal tension that can exist in resolving conflict and violence in a school environment. While live exercises and role playing can provide more of the desired realism, they are expensive, manpower intensive, and sometimes not feasible. New methods of training are required to address areas such as: (1) event modeling and simulation; (2) policy and procedures training; (3) interpersonal skill development; (4) officer safety; (5) use of force

or judgment training; and (6) supervisor, management, and resource allocation training. Please consider training technologies, such as computer-based training, interactive/multi-media, video-based, distributed, and virtual reality.

Simulation and statistical modeling technology can also be used to enhance operational capability and capacity. Technology can improve: (1) geo-coded information that may provide a basis for new safety and violence reduction strategies; (2) statistical modeling, neural network, or expert-based methods to classify students needing special supervision or other attention; (3) general crime prevention practices; and (4) other areas that will improve strategies and procedures to more efficiently and effectively use all the resources available or potentially available to schools. The simulation and modeling technologies should be inexpensive to procure, easy to learn, and sufficiently flexible to adapt to specific needs of individual school systems.

## B. Communication and Information Technology

NIJ solicits proposals that examine information technology needs and methods for information database integration or to improve analysis of the safety environment in individual schools and to plan new approaches to reduce violence and create a safer environment.

NIJ solicits proposals that would (1) delineate current school security information systems; (2) provide brief descriptions that characterize the current data bases; (3) describe the common needs and new or modified requirements for a school security information system; (4) provide a technical, organizational, and operational system that permits schools to share or acquire relevant security information; (5) describe which of the current information systems could or should be linked together, and how this should be accomplished; (6) describe any new or novel

applications of information technology and the cost effectiveness of any proposed shared information system; and (7) provide a plan for implementation of any proposed information systems or technologies.

Proposals should consider the viability of facilitating increased information flow between security and other school functions as well as increased information flow among schools. This effort could include the ongoing assessment or evaluation of the information on the systems currently available to schools. Assessment or evaluations should focus on how information technology can be better applied to sharing among schools and with the law enforcement community.

NIJ is also looking for technology to enhance communication such as interagency communications interoperability, secure communications, video/data capture, transmission (including video conferencing), and/or compression (including noise and false alarm reduction).

## **C. Officer Protection and Crime Prevention**

Law enforcement needs techniques, materials, and methods to improve the protective and safety equipment used by school officials. Your application addressing officer protection should emphasize improving the degree of protection, ease of use, and cost of the equipment.

Innovative sensor, detection, monitoring, surveillance, communications, and processing techniques and products have the potential of preventing crime and enhancing school safety. Your application in this area should develop systems that are easy to use, require low power (primarily for man-portable or unattended applications), and are inexpensive to purchase and operate. Examples where these technologies may be applied are: (1) perimeter/physical security; (2) theft prevention; and (3) explosives/drug detection.

Although CCTV is already being used in some schools, the development, adaptation of new or existing commercial CCTV systems, and their appropriate deployment, is an area of technology that may benefit from further research and development. Image processing, enhancement and analysis may also be useful. For some types of safety threats to a school (e.g. telephoned bomb scares), speaker identification might have some value. However, it is incumbent on the applicant to articulate the expected benefits and cost trade-offs with existing approaches for dealing with the problems that the technology seeks to address.

## **D. Less-Than-Lethal (LTL) Technology**

NIJ seeks technologies that provide new or significantly improved options to conventional use-of-force methods. Scenarios where LTL technologies, devices or techniques might be appropriately employed include, but are not limited to, confrontation with subjects who assault officers, who refuse to comply with lawful orders or who become violent or uncooperative and may be armed with a weapon.

You must consider all aspects of the safety of proposed LTL devices, from the effect produced on the subject to the effect on bystanders and on security officers. Any disabling or otherwise incapacitating effect must be of a short duration and completely reversible. You must clearly articulate the expected reduction in the incidence of injury to officers and combative students or adults by implementing the device. You must make cogent arguments to demonstrate the likelihood of the proposed technique or device being quantitatively more effective or safer than that currently used to achieve the same objective.

## E. GIS and Crime Mapping

The National Institute of Justice encourages proposals that advance the use of Geographic Information System (GIS) technology to monitor and assess issues of crime and safety in and around schools, as well as routes to/from school. Students' journeys to and from school might be analyzed in the context of environmental factors such as street lighting, "dark corners", and the proximity of public transportation. Other important contextual factors that might be spatially analyzed with a GIS include places frequented by known offenders and drug markets that are proximate to school grounds. In addition, proposals that utilize "high definition" GIS technology to map problem areas within and around school buildings are welcomed. Applicants must demonstrate the uniqueness and utility of proposed GIS applications and it is encouraged that partnerships between school administrators and local police are explored toward this end.

## F. School Technology Assessment

Proposals that will assess the effective uses of technology for school security will also be considered. In your proposal, please describe your assessment plan in sufficient detail to demonstrate your ability to capture and document school security needs and to identify strategic uses of technology to meet these needs. Proposed assessments should be comprehensive in nature taking into account regional, national, and demographic concerns. Once again, applicants should remember that identified technology solutions should be affordable to acquire as well as to maintain.

## G. Creative Technology Solutions in Other Areas

The intent of this category is to serve as an "open window" to encourage the submission of research, development, and application proposals which will result in creative, innovative

technologies to benefit school security. All proposals in technology application, assessment, or practice areas not addressed in the above technical areas will be considered in this category. You must explain the benefit derived from your proposal that will lead to safer schools.

## IV. How to Apply

Those interested in submitting proposals in response to this solicitation must complete the required application forms and submit related required documents. (See below for how to obtain application forms and guides for completing proposals.) Applicants must include the following information/forms to qualify for consideration:

- Standard Form (SF) 424—application for Federal assistance
- Assurances
- Certifications Regarding Lobbying, Debarment, Suspension and Other Responsibility Matters; and Drug-Free Workplace Requirements (one form)
- Disclosure of Lobbying Activities
- Budget Detail Worksheet
- Budget Narrative
- Negotiated indirect rate agreement (if appropriate)
- Names and affiliations of all key persons from applicant and subcontractor(s), advisors, consultants, and advisory board members. Include name of principal investigator, title, organizational affiliation (if any), department (if institution of higher education), address, phone, and fax
- Proposal abstract
- Table of contents
- Program narrative or technical proposal
- Privacy certificate
- References
- Letters of cooperation from organizations collaborating in the research project
- Résumés

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- Appendixes, if any (e.g., list of previous NIJ awards, their status, and products [in NIJ or other publications])

**Proposal abstract.** The proposal abstract, when read separately from the rest of the application, is meant to serve as a succinct and accurate description of the proposed work. Applicants must concisely describe the research goals and objectives, research design, and methods for achieving the goals and objectives. Summaries of past accomplishments are to be avoided, and proprietary/confidential information is not to be included. Length is not to exceed 400 words. Use the following two headers:

**Project Goals and Objectives:**

**Proposed Research Design and Methodology:**

**Page limit.** The number of pages in the “Program Narrative” part of the proposal must not exceed 30 (double-spaced pages).

**Due date.** Completed proposals **must be received** at the National Institute of Justice by the close of business on June 7, 1999. Extensions of this deadline will not be permitted.

**Award period.** In general, NIJ limits its grants and cooperative agreements to a maximum period of 12 or 24 months. However, longer budget periods may be considered.

**Number of awards.** NIJ anticipates supporting multiple grants under this solicitation.

**Award amount.** Awards totaling \$950,000 will be made available for this NIJ solicitation.

**Applying.** Two packets need to be obtained: (1) application forms (including a sample budget worksheet) and (2) guidelines for submitting proposals (including requirements for proposal writers and requirements for grant recipients). To receive them, applicants can:

- Access the Justice Information Center on the web:

<http://www.ncjrs.org/fedgrant.htm#NIJ>

or the NIJ web site:

<http://www.ojp.usdoj.gov/NIJ/funding.htm>

These web sites offer the NIJ application forms and guidelines as electronic files that may be downloaded to a personal computer.

- Request hard copies of the forms and guidelines by mail from the National Criminal Justice Reference Service at 800–851–3420 or from the Department of Justice Response Center at 800–421–6770 (in the Washington, D.C., area, at 202–307–1480).
- Request copies by fax. Call 800–851–3420 and select option 1, then option 1 again for NIJ. Code is 1023.

**Guidance and information.** Applicants who wish to receive additional guidance and information may contact the U.S. Department of Justice Response Center at 800–421–6770. Center staff can provide assistance or refer applicants to an appropriate NIJ professional. Applicants may, for example, wish to discuss their prospective research topics with the NIJ professional staff.

**Send completed forms to:**

Solicitation for Safe School Technologies  
National Institute of Justice  
Office of Science and Technology  
810 Seventh Street NW  
Washington, DC 20531  
[overnight courier ZIP code 20001]

SL000338



To find out more information about the National Institute of Justice, please contact:

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